

ABSTRACT

POLYSILICON ETCH USEFUL DURING THE MANUFACTURE OF A SEMICONDUCTOR DEVICE

A method for etching a polysilicon layer comprises the steps of providing a semiconductor wafer substrate assembly having at least first and second features therein in spaced relation to each other which define an opening therebetween. A blanket 5 polysilicon is formed over the wafer assembly and within the opening. A patterned photoresist layer is formed over the polysilicon layer, then the polysilicon layer within the opening is etched with a first etch. Subsequent to said first etch, the polysilicon with the opening is etched with a second etch comprising a halogen-containing gas flow rate of from about 35 sccm to about 65 sccm and an oxygen-containing gas (for example HeO₂) 10 flow rate of from about 12 sccm to about 15.6 sccm.